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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

## Application No. Applicant(s) 10/688,157 MANGAL ET AL. Office Action Summary Examiner Art Unit ANTHONY S. ADDY 2617 -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --Period for Reply A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS. WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION. Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication. If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b). Status 1) Responsive to communication(s) filed on 26 February 2008. 2a) This action is FINAL. 2b) This action is non-final. 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213. Disposition of Claims 4) Claim(s) 1-24 is/are pending in the application. 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration. 5) Claim(s) \_\_\_\_\_ is/are allowed. 6) Claim(s) 1-24 is/are rejected. 7) Claim(s) \_\_\_\_\_ is/are objected to. 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement. Application Papers 9) The specification is objected to by the Examiner. 10) The drawing(s) filed on is/are; a) accepted or b) objected to by the Examiner. Applicant may not request that any objection to the drawing(s) be held in abevance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d). 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152. Priority under 35 U.S.C. § 119 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) All b) Some \* c) None of: Certified copies of the priority documents have been received. 2. Certified copies of the priority documents have been received in Application No. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)). \* See the attached detailed Office action for a list of the certified copies not received.

1) Notice of References Cited (PTO-892)

Notice of Draftsperson's Patent Drawing Review (PTO-948)

Information Disclosure Statement(s) (FTO/S5/08)
 Paper No(s)/Mail Date \_\_\_\_\_\_\_.

Attachment(s)

Interview Summary (PTO-413)
 Paper No(s)/Mail Date.

6) Other:

5 Notice of Informal Patent Application

#### DETAILED ACTION

This action is in response to applicant's amendment filed on February 26, 2008.
 Claims 1-24 are pending in the present application.

### Response to Arguments

Applicant's arguments with respect to claims 1-24 have been considered but are moot in view of the new ground(s) of rejection.

## Claim Rejections - 35 USC § 103

- The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
- Claims 1-6, 8, 16-18 and 20-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over O'Connor, U.S. Publication Number 2004/0002339 A1 (hereinafter O'Connor) and Yang, U.S. Publication Number 2002/0114334 A1 (hereinafter Yang).

Regarding claims 1 and 16, O'Connor teaches in a wireless communication system (see Fig. 1) adapted to provide communication services to multiple mobile stations (e.g. wireless handsets 12) within a given coverage area (see p. 3 [0049] and Fig. 1), wherein the system dynamically allocates radio frequency bandwidth among the mobile stations according to a bandwidth allocation algorithm (see p. 2 [0021] and p. 4 [0057] [i.e. the teaching of O'Connor that radio frequency bandwidth is dynamically allocated based on the number of mobile devices that has stopped or restarted

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transmitting traffic on the network equates to the limitations of "the system dynamically allocates radio frequency bandwidth among the mobile stations according to a bandwidth allocation algorithm," since the allocated bandwidth on the network inherently has an associated allocation algorithm that is based on the number of mobile devices that has stopped or restarted transmitting traffic on the network]), and wherein the radio frequency bandwidth is used to send voice or data traffic to the mobile stations as part of providing the communication services to the mobile stations (see p. 3 [0052] and p. 4 [0057-0058]), a method comprising: determining a number of active mobile stations that are concurrently operating in the given coverage area (see p. 3 [0052]); and determining that an amount of voice or data traffic buffered at a base station for transmission to a mobile station as part of providing the communication services is above a predetermined threshold amount (see p. 4 [0057] and p. 5 [0077]).

Although, O'Connor fails to explicitly teach determining that the number of active mobile stations exceeds a threshold and responsively changing the bandwidth allocation algorithm, so as to change how the system dynamically allocates the radio frequency bandwidth among the mobile stations, however, one of ordinary skill in the art recognizes that O'Connor's teaching of dynamically allocating radio frequency bandwidth based on the number of mobile devices that has stopped or restarted transmitting traffic on the network (see p. 3 [0052] and p. 4 [0057-0058]) broadly reads on the limitations of "determining that the number of active mobile stations exceeds a threshold and dynamically allocating system bandwidth, so as to change how the system dynamically allocates the radio frequency bandwidth among the mobile station,

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since O'Connor teaches radio frequency bandwidth is dynamically allocated based on a threshold number of mobile devices that has stopped or restarted transmitting traffic on the network. Furthermore, it is inherent O'Connor compares the active mobile devices to a threshold, since for example, O'Connor teaches when the network bandwidth allocation device receives a suspend packet from a mobile device, it realizes that the bandwidth available to the network has increased (since no outgoing traffic will occur from the device in question until a resume packet is received) and accordingly can dynamically allocate additional bandwidth to one or more devices on the network by issuing a codec control signal to the one or more other devices and thereby increase their signal quality (see p. 4 [0057]).

In an analogous field of endeavor, Yang teaches a system and method related to allocating and managing system bandwidth, wherein different scheduling algorithms can be implemented for allocating bandwidth among different mobile aggregation classes (see p. 2 [0022] and p. 4 [0044]). According to Yang, while various best-effort scheduling algorithms can be implemented, a round-robin scheduler algorithm allocates bandwidth equally among the best-effort classes, and in an alternative embodiment of the scheduling algorithm, bandwidth is allocated among the best-effort classes using a weighted round-robin scheduling algorithm (see p. 4 [0044]).

It would therefore have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teachings of using different scheduling algorithms for allocating bandwidth among different mobile aggregation classes of Yang to the method of O'Connor to include a method of determining that the number of active mobile

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stations exceeds a threshold and responsively changing the bandwidth allocation algorithm, so as to change how the system dynamically allocates the radio frequency bandwidth among the mobile stations, in order to dynamically allocate system bandwidth using a wide range of adaptive algorithms that depend upon a nominal channel power level and an average effective data rate of mobile stations in a given coverage area to thereby increase their signal quality and the overall system utilization of the network.

Regarding claims 2 and 17, O'Connor in view of Yang teaches all the limitations of claims 1 and 16. O'Connor in view of Yang further teaches a computer readable medium having stored therein instructions for causing a processor to execute the method of claims 1 and 16 (see O'Connor, p. 5 [0077]).

Regarding claim 20, O'Connor teaches a wireless communication system (see Fig. 1) comprising: a base station (wireless base station 10), having an antenna arrangement for communication over an air interface with a plurality of mobile stations (e.g. wireless handsets 12) in a given coverage area (see p. 3 [0049] and Fig. 1), wherein the base station dynamically allocates bandwidth to the mobile stations according to a bandwidth allocation algorithm (see p. 2 [0021] and p. 4 [0057] [i.e., the teaching of O'Connor that radio frequency bandwidth is dynamically allocated based on the number of mobile devices that has stopped or restarted transmitting traffic on the network equates to the limitations of "the system dynamically allocates radio frequency bandwidth among the mobile stations according to a bandwidth allocation algorithm," since the allocated bandwidth on the network inherently has an associated allocation

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algorithm that is based on the number of mobile devices that has stopped or restarted transmitting traffic on the network]), and program logic, stored in data storage and executable on a processor (see p. 5 [0077]), to determine that a number of active mobile stations are operating concurrently operating in the given coverage area (see p. 3 [0052]).

Although, O'Connor fails to explicitly teach changing the bandwidth allocation algorithm based on the number, so as to change how the system dynamically allocates the radio frequency bandwidth, however, one of ordinary skill in the art recognizes that O'Connor's teaching of dynamically allocating radio frequency bandwidth based on the number of mobile devices that has stopped or restarted transmitting traffic on the network (see p. 3 [0052] and p. 4 [0057-0058]) broadly reads on the limitations of "determining that the number of active mobile stations exceeds a threshold and dynamically allocating system bandwidth, so as to change how the system dynamically allocates the radio frequency bandwidth among the mobile station, since O'Connor teaches radio frequency bandwidth is dynamically allocated based on a threshold number of mobile devices that has stopped or restarted transmitting traffic on the network. Furthermore, it is inherent O'Connor compares the active mobile devices to a threshold, since for example, O'Connor teaches when the network bandwidth allocation device receives a suspend packet from a mobile device, it realizes that the bandwidth available to the network has increased (since no outgoing traffic will occur from the device in question until a resume packet is received) and accordingly can dynamically allocate additional bandwidth to one or more devices on the network by issuing a

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codec control signal to the one or more other devices and thereby increase their signal quality (see p. 4 [0057]).

In an analogous field of endeavor, Yang teaches a system and method related to allocating and managing system bandwidth, wherein different scheduling algorithms can be implemented for allocating bandwidth among different mobile aggregation classes (see p. 2 [0022] and p. 4 [0044]). According to Yang, while various best-effort scheduling algorithms can be implemented, a round-robin scheduler algorithm allocates bandwidth equally among the best-effort classes, and in an alternative embodiment of the scheduling algorithm, bandwidth is allocated among the best-effort classes using a weighted round-robin scheduling algorithm (see p. 4 [0044]).

It would therefore have been obvious to one of ordinary skill in the art at the time of the invention to modify O'Connor with Yang to include changing the bandwidth allocation algorithm based on the number, so as to change how the system dynamically allocates the radio frequency bandwidth, in order to dynamically allocate system bandwidth using a wide range of adaptive algorithms that depend upon a nominal channel power level and an average effective data rate of mobile stations in a given coverage area to thereby increase their signal quality and the overall system utilization of the network.

Regarding claims 3, 4, 5, 21, 22 and 23, O'Connor in view of Yang teaches all the limitations of claims 1 and 20. O'Connor in view of Yang further teaches a wide range of adaptive algorithms may be constructed depending upon the particular

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circumstances of the communication system to support the number of members of the defined groups (see *Yang*, p. 4 [0044]).

The combination of O'Connor in view of Yang fails to explicitly teach switching the bandwidth allocation algorithm to a maximum-aggregate-traffic algorithm, commondata-throughput algorithm or a common-power algorithm. However, it would therefore have been obvious to one of ordinary skill in the art at the time of the invention to modify the method and system of O'Connor and Yang to include, switching the bandwidth allocation algorithm to a maximum-aggregate-traffic algorithm, common-data-throughput algorithm or a common-power algorithm, since Yang teaches a system and method related to allocating and managing system bandwidth, wherein different scheduling algorithms can be implemented for allocating bandwidth among different mobile aggregation classes (see p. 2 [0022] and p. 4 [0044]), in order to dynamically allocate system bandwidth using a wide range of adaptive algorithms that depend upon a nominal channel power level and an average effective data rate of mobile stations in a given coverage area to thereby increase their signal quality and the overall system utilization of the network.

Regarding claim 6, O'Connor in view of Yang teaches all the limitations of claim

1. O'Connor in view of Yang further teaches a method, wherein responsively changing
the bandwidth allocation algorithm comprises: switching the bandwidth allocation
algorithm to use a first bandwidth allocation algorithm to allocate the radio frequency
bandwidth among mobile stations within a first group of mobile stations; and switching
the bandwidth allocation algorithm to use a second bandwidth allocation algorithm to

allocate the radio frequency bandwidth among mobile stations with a second group of mobile stations (see Yana, p. 4 [0044]).

Regarding claims 8 and 24, O'Connor in view of Yang teaches all the limitations of claims 1 and 20. O'Connor in view of Yang further teaches a system, wherein the base station communicates over an air interface with the mobile stations, and wherein the mobile stations are mobile phones (see O'Connor, p. 3 [0049] and Fig. 1), but fails to explicitly teach the base station uses CDMA. However, one of ordinary skill in the art recognizes it would have been obvious to implement the wireless base station as taught by O'Connor to use CDMA in order to allow multiple mobile devices to share the same spectrum at the same time to maximize network bandwidth resources.

It would therefore have been obvious to one of ordinary skill in the art at the time of the invention to modify the method and system of O'Connor and Yang, wherein the base station uses CDMA in order to allow multiple mobile devices to share the same spectrum at the same time to maximize network bandwidth resources.

Regarding claim 18, O'Connor in view of Yang teaches all the limitations of claim 16. O'Connor in view of Yang further teaches a method, determining that the amount of voice or data traffic buffered at the base station for transmission to the mobile station as part of providing communication services is below the predetermined threshold; and responsively decreasing the amount of bandwidth allocated to the mobile station for transmitting the communication traffic from the base station to the mobile station (see O'Connor, p. 2 [0032] and p. 4 [0057-0058]).

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5. Claims 9-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over O'Connor, U.S. Publication Number 2004/0002339 A1 (hereinafter O'Connor) and Yang, U.S. Publication Number 2002/0114334 A1 (hereinafter Yang) and further in view of Choi et al., U.S. Patent Number 6,724,740 (hereinafter Choi).

Regarding claim 9, O'Connor teaches in wireless network adapted to provide communication services concurrently to multiple stations (e.g. wireless handsets 12) operating within a given coverage area (see p. 3 [0049] and Fig. 1), a method comprising: and determining that a threshold number of mobile stations being provided communication services are concurrently operating in a given coverage area (see p. 3 [0052]).

O'Connor fails to explicitly teach responsively changing a bandwidth allocation algorithm, wherein the bandwidth allocation algorithm is used to allocate a forward supplemental channel among the mobile stations and wherein the forward supplemental channel is used to send voice or data traffic from a base station to the mobile stations as part of providing the communication services.

In an analogous field of endeavor, Yang teaches a system and method related to allocating and managing system bandwidth, wherein different scheduling algorithms can be implemented for allocating bandwidth among different mobile aggregation classes (see p. 2 [0022] and p. 4 [0044]). According to Yang, while various best-effort scheduling algorithms can be implemented, a round-robin scheduler algorithm allocates bandwidth equally among the best-effort classes, and in an alternative embodiment of

the scheduling algorithm, bandwidth is allocated among the best-effort classes using a weighted round-robin scheduling algorithm (see p. 4 [0044]).

It would therefore have been obvious to one of ordinary skill in the art at the time of the invention to modify O'Connor with Yang to include responsively changing a bandwidth allocation algorithm, wherein the bandwidth allocation algorithm is used to allocate channel bandwidth among mobile stations, in order to dynamically allocate system bandwidth using a wide range of adaptive algorithms that depend upon a nominal channel power level and an average effective data rate of mobile stations in a given coverage area to thereby increase their signal quality and the overall system utilization of the network.

Although, O'Connor in view of Yang fails to explicitly teach the allocation algorithm is used to allocate a forward supplemental channel among the mobile stations and wherein the forward supplemental channel is used to send voice or data traffic from a base station to the mobile stations as part of providing the communication service, one of ordinary skill in the art recognizes that such features are very well known in the art as taught for example by Choi.

In an analogous field of endeavor, Choi teaches a CDMA communication system wherein a forward supplemental channel is allocated among mobile stations and wherein the forward supplemental channel is used to send voice or data traffic from a base station to the mobile stations as part of providing the communication service (see col. 31, lines 12-36 and col. 32, lines 44-50).

It would therefore have been obvious to one of ordinary skill in the art at the time of the invention to modify O'Connor and Yang with Choi to include a method of allocating a forward supplemental channel among the mobile stations and wherein the forward supplemental channel is used to send voice or data traffic from a base station to the mobile stations as part of providing the communication service, in order to allocate an exclusive dedicated channel such as a forward supplemental channel for communication between a base station and a mobile terminal as taught by Choi (see col. 4. lines 19-35).

Regarding claim 10, the combination of O'Connor, Yang and Choi teaches all the limitations of claim 9. The combination of O'Connor, Yang and Choi further teaches a computer readable medium having stored therein instructions for causing a processor to execute the method of claim 9 (see O'Connor, p. 5 [0077]).

Regarding claims 11, 12, 13, the combination of O'Connor, Yang and Choi teaches all the limitations of claim 9. The combination of O'Connor, Yang and Choi further teaches a wide range of adaptive algorithms may be constructed depending upon the particular circumstances of the communication system to support the number of members of the defined groups (see *Yang*, p. 4 [0044]).

The combination of O'Connor, Yang and Choi fails to explicitly teach switching the bandwidth allocation algorithm to a maximum-aggregate-traffic algorithm, commondata-throughput algorithm or a common-power algorithm. However, it would therefore have been obvious to one of ordinary skill in the art at the time of the invention to modify the method and system of O'Connor, Yang and Choi to include, switching the bandwidth

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allocation algorithm to a maximum-aggregate-traffic algorithm, common-data-throughput algorithm or a common-power algorithm, since Yang teaches a system and method related to allocating and managing system bandwidth, wherein different scheduling algorithms can be implemented for allocating bandwidth among different mobile aggregation classes (see p. 2 [0022] and p. 4 [0044]), in order to dynamically allocate system bandwidth using a wide range of adaptive algorithms that depend upon a nominal channel power level and an average effective data rate of mobile stations in a given coverage area to thereby increase their signal quality and the overall system utilization of the network.

Regarding claim 14, the combination of O'Connor, Yang and Choi teaches all the limitations of claim 9. The combination of O'Connor, Yang and Choi further teaches a method, wherein responsively changing the bandwidth allocation algorithm comprises: switching the bandwidth allocation algorithm to use a first bandwidth allocation algorithm to allocate the radio frequency bandwidth among mobile stations within a first group of mobile stations; and switching the bandwidth allocation algorithm to use a second bandwidth allocation algorithm to allocate the radio frequency bandwidth among mobile stations with a second group of mobile stations (see Yang, p. 4 [0044]).

6. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over O'Connor, U.S. Publication Number 2004/0002339 A1 (hereinafter O'Connor) and Yang, U.S. Publication Number 2002/0114334 A1 (hereinafter Yang) as applied to claim 1 above, and further in view of Nee et al., U.S. Patent Number 6,876,857 (hereinafter Nee). Application/Control Number: 10/688,157 Art Unit: 2617

Regarding claim 7, O'Connor in view of Yang teaches all the limitations of claim 1.

O'Connor in view of Yang further teaches a method, wherein determining that a threshold number of mobile stations being provided communication services are concurrently operating in the given coverage area (see O'Connor, p. 3 [0052]).

The combination of O'Connor and Yang fails to explicitly teach determining a current time of day; and using a predictive model to determine that the threshold number of mobile stations are concurrently operating in the given coverage area at the current time of day.

Nee, however, teaches a method and system of efficiently allocating bandwidth within a mobile communication network, wherein a time of day information and historic usage data of mobile devices in the communication network are used to more accurately predict the available bandwidth in contiguous cells (see col. 9, lines 9-35 and Fig. 2A). According to Nee, the current bandwidth allocation for a cell together with a predicted bandwidth usage for the time when the session would be requested from that cell can be combined in a weighted fashion to provide a more accurate prediction of the available bandwidth at some time in the future (see col. 9, lines 34-40).

It would therefore have been obvious to one of ordinary skill in the art at the time of the invention to modify O'Connor and Yang with Nee to include a method of determining a current time of day; and using a predictive model to determine that the threshold number of mobile stations are concurrently operating in the given coverage area at the current time of day, in order that an estimation of a current bandwidth allocation for a cell together with a predicted bandwidth usage for the time when the session would be

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requested from that cell can be combined in a weighted fashion to provide a more accurate prediction of the available bandwidth at some time in the future as taught by Nee (see col. 9. lines 34-40).

7. Claims 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over O'Connor, U.S. Publication Number 2004/0002339 A1 (hereinafter O'Connor) and Yang, U.S. Publication Number 2002/0114334 A1 (hereinafter Yang) and Choi et al., U.S. Patent Number 6,724,740 (hereinafter Choi) as applied to claim 9 above, and further in view of Nee et al., U.S. Patent Number 6,876,857 (hereinafter Nee).

Regarding claim 15, the combination of O'Connor, Yang and Choi teaches all the limitations of claim 9. The combination of O'Connor, Yang and Choi further teaches a method, wherein determining that a threshold number of mobile stations being provided communication services are concurrently operating in the given coverage area (see O'Connor, p. 3 [0052]).

The combination of O'Connor, Yang and Choi fails to explicitly teach determining a current time of day; and using a predictive model to determine that the threshold number of mobile stations are concurrently operating in the given coverage area at the current time of day.

Nee, however, teaches a method and system of efficiently allocating bandwidth within a mobile communication network, wherein a time of day information and historic usage data of mobile devices in the communication network are used to more accurately predict the available bandwidth in contiguous cells (see col. 9, lines 9-35 and Fig. 2A). According to Nee, the current bandwidth allocation for a cell together with a

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predicted bandwidth usage for the time when the session would be requested from that cell can be combined in a weighted fashion to provide a more accurate prediction of the available bandwidth at some time in the future (see col. 9, lines 34-40).

It would therefore have been obvious to one of ordinary skill in the art at the time of the invention to modify O'Connor, Yang and Choi with Nee to include a method of determining a current time of day; and using a predictive model to determine that the threshold number of mobile stations are concurrently operating in the given coverage area at the current time of day, in order that an estimation of a current bandwidth allocation for a cell together with a predicted bandwidth usage for the time when the session would be requested from that cell can be combined in a weighted fashion to provide a more accurate prediction of the available bandwidth at some time in the future as taught by Nee (see col. 9, lines 34-40).

Claims 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over
 O'Connor, U.S. Publication Number 2004/0002339 A1 (hereinafter O'Connor) and
 Yang, U.S. Publication Number 2002/0114334 A1 (hereinafter Yang) as applied to claim 16 above, and further in view of Choi et al., U.S. Patent Number 6,724,740 (hereinafter Choi).

Regarding claim 19, O'Connor in view of Yang teaches all the limitations of claim

16. O'Connor in view of Yang fails to explicitly teach a method, wherein the wireless
network is a CDMA network, and wherein responsively increasing the amount of
bandwidth allocated to the mobile station comprises increasing an amount of a forward
supplemental channel allocated to the mobile station.

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In an analogous field of endeavor, Choi teaches a CDMA communication system wherein a forward supplemental channel is allocated among mobile stations and wherein the forward supplemental channel is used to send voice or data traffic from a base station to the mobile stations as part of providing the communication service (see col. 31, lines 12-36 and col. 32, lines 44-50). Furthermore, O'Connor teaches dynamically allocating radio frequency bandwidth based on the number of mobile devices that has stopped or restarted transmitting traffic on the network (see p. 3 [0052] and p. 4 [0057-0058]).

It would therefore have been obvious to one of ordinary skill in the art at the time of the invention to modify O'Connor and Yang with Choi to include a method, wherein the wireless network is a CDMA network, and wherein responsively increasing the amount of bandwidth allocated to the mobile station comprises increasing an amount of a forward supplemental channel allocated to the mobile station, in order to allocate an exclusive dedicated channel such as a forward supplemental channel for communication between a base station and a mobile terminal as taught by Choi (see col. 4, lines 19-35).

### Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kolor et al., U.S. Publication Number 2005/0180350 A1 discloses channel scheduling.

Khare et al., U.S. Patent Number 6,819,660 discloses method and apparatus for determining optimum data rate on the reverse supplemental channel in wireless communications.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANTHONY S. ADDY whose telephone number is (571)272-7795. The examiner can normally be reached on Mon-Thur 8:00am-6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duc M. Nguyen can be reached on 571-272-7503. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Anthony S Addy/ Examiner, Art Unit 2617 Application/Control Number: 10/688,157 Art Unit: 2617 Page 19

/Duc Nguyen/

Supervisory Patent Examiner, Art Unit 2617